

Remarks/Arguments

Applicants thank the Examiner for careful consideration of the application.

No claims have been allowed by the Examiner.

I. Election/Restriction:

Examiner has identified two distinct inventions:

- I. Claims 1, 6-21, 24-32, 34, and 37-43 drawn to a fluid ejection cartridge, classified in class 118, subclass 300; and
- II. Claim 44 drawn to a dosage form, classified in class 206, subclass 532.

Applicants affirm that the above two groups identified by the Examiner are patentably distinct. However, Applicants believe that the restriction requirement is improper. Examiner's restriction requirement has not established that an undue burden would be required if the restriction requirement either was not issued or if issued with fewer species. More particularly, MPEP §803 states:

If the search and examination of an entire application can be made without serious burden, the Examiner must examine it on the merits, even though it includes claims to independent or distinct inventions.

In the present application, no undue burden has been established if claim 44 is examined together with the claims of group I. The present restriction requirement not only improperly shifts the Examiner's burden to the Applicants, but also subjects the Applicants to the added financial burden of prosecuting different claims in an unreasonable number of separate proceedings. Applicants respectfully request that Examiner reconsider the current restriction and withdraw this restriction requirement.

Thus, Applicants hereby provisionally elect with traverse Group I covering claims 1, 6-21, 24-32, 34, and 37-43.

Applicants note that upon allowance of an independent claim, Applicants will be entitled to consideration of all dependent claims depending from the allowed independent claim.

II. Double Patenting

Examiner on page 4 of the Office Communication has rejected claims 1, 6-21, 24-32, 34, and 37-43 under the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-53 of U.S. Patent No. 6,702,894. Examiner asserts that although the conflicting claims are not identical, they are not patentably distinct from each other. Applicants traverse Examiner's statement that the instant application has narrower claim limitations compared to US'894. Applicants believe the instant application contains broader claim limitations.

In response, Applicants are enclosing a Terminal Disclaimer in accordance with 37 C.F.R. § 1.321(c) to overcome the rejection based upon obviousness-type double patenting grounds disclaiming the terminal part of any patent issued for the above-captioned application extending beyond the statutory term of U.S. Patent No. 6,702,894 commonly owned by the assignee of the present invention. With this terminal disclaimer, Applicants believe that the rejection of claims 1, 6-21, 24-32, 34, and 37-43 has been overcome. Therefore, Applicants respectfully request that the Examiner withdraw the rejection of claims 1, 6-21, 24-32, 34, and 37-43 based upon obviousness-type double patenting grounds.

III. Rejections under 35 U.S.C. §102(e):

Examiner, on page 5 of the Office Communication has rejected claims 1 and 10 under 35 U.S.C. §102(e) as being anticipated by Percin et al. (U.S. Patent No. 6,474,786, "Percin"). This rejection is respectfully traversed because all of the elements of the claimed invention are not present in the cited reference.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *MPEP*

2131. The identical invention must be shown in as complete detail as is contained in the . . . claim. MPEP 2131 citing *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226 (Fed. Cir. 1990).

Independent claim 1 discloses "a fluid ejection cartridge for dispensing a bioactive fluid onto an ingestible sheet, comprising: a first reservoir containing the bioactive fluid; and a first fluid ejector fluidically coupled to said first reservoir, wherein said first fluid ejector is configured to eject, essentially in a drop wise manner, at least a drop of the bioactive fluid *onto the ingestible sheet.*" *Emphasis added.*

In contrast, Percin discloses "[t]he droplet ejector can be used for inkjet printing, biomedicine, drug delivery, drug screening, fabrication of biochips, fuel injection and semiconductor manufacturing." Col. 4, lines 44-47. Applicants have been unable to find anywhere within Percin the mention of an ingestible sheet; and, in particular, the teaching of a fluid ejection cartridge configured to eject, essentially in a drop wise manner, at least a drop of the bioactive fluid onto the ingestible sheet. Examiner, apparently acknowledges the lack of such a disclosure in stating "Percin et al's device is capable of dispensing bioactive fluid at the claimed volume onto an ingestible sheet." Because Percin is silent on an ingestible sheet Applicants assert that Examiner's rejection of claims 1 and 10 is improper. Applicants argue that it is well settled that a claim is anticipated if each and every limitation is found either expressly or inherently in a single prior art reference.¹ Applicants argue that the limitation "onto the ingestible sheet" is missing in Percin. Even if Examiner is arguing inherency, Applicants assert that Examiner's rejection is still improper. To establish inherency, the extrinsic evidence "must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill."² Even the fact that a prior art reference is capable of being modified and

¹ *Celeritas Tech., Ltd. v. Rockwell Int'l Corp.*, 150 F.3d 1354, 47 USPQ2d 1516, 1522 (Fed. Cir. 1998), cert. denied, 525 U.S. 1106 (1999).

² *Continental Can Co. USA v. Monsanto Co.*, 948 F.2d 1264, 1268, 20 USPQ2d 1746, 1749 (Fed. Cir. 1991).

the modification would anticipate the invention is not sufficient to support an anticipation rejection based on inherency.³

Thus, Applicants assert Percin does not disclose "a fluid ejection cartridge for dispensing a bioactive fluid onto an ingestible sheet, comprising: a first reservoir containing the bioactive fluid; and a first fluid ejector fluidically coupled to said first reservoir, wherein said first fluid ejector is configured to eject, essentially in a drop wise manner, at least a drop of the bioactive fluid onto the ingestible sheet," as recited in independent claim 1, Percin does not anticipate or render obvious independent claim 1, since the above elements of the instant claimed invention are arranged in a manner distinct from that disclosed in claim 1.

Since a proper anticipation rejection requires that there be present in a single prior art reference a disclosure of all of the elements of the claimed invention arranged as in the claims, Applicants argue that Percin does not anticipate the present invention. See MPEP 2131. Therefore, Applicants respectfully request that the Examiner withdraw the rejection of claims 1 and 10 based on Percin under 35 U.S.C. § 102(e).

Dependent claim 10 is dependent upon independent claim 1, and is therefore believed to be allowable as dependent upon a believed allowable claim. Accordingly, Applicants believe that the rejection of claims 1 and 10 has been overcome at least for this reason alone. Therefore, Applicants respectfully request that the Examiner withdraw the rejection of dependent claims 1 and 10 under 35 U.S.C. § 102(e) in respect to Percin.

Examiner, on page 5 of the Office Communication has rejected claims 1 and 6-10 under 35 U.S.C. §102(e) as being anticipated by Childers (U.S. Patent Publication No. 2002/0187248, "Childers"). This rejection is respectfully traversed because all of the elements of the claimed invention are not present in the cited reference.

³ *Id.* at 1269, 20 USPQ2d at 1749 (quoting *In re Oelrich*, 666 F.2d 578, 581, 212 USPQ 323, 326 (C.C.P.A. 1981).

Independent claim 1 discloses "a fluid ejection cartridge for dispensing a bioactive fluid onto an ingestible sheet, comprising: a first reservoir containing the bioactive fluid; and a first fluid ejector fluidically coupled to said first reservoir, wherein said first fluid ejector is configured to eject, essentially in a drop wise manner, at least a drop of the bioactive fluid *onto the ingestible sheet.*" *Emphasis added.*

In contrast, Childers discloses in referring to Figs. 1 and 2 the "apparatus 10 includes an activating means, such as a controller or control 12 . . . [which] provides output signals 14 to a fluid dispenser 16, such as a fluid-jet based device." Page 3, paragraph [0050]. In addition, Childers discloses the "receiving medium 26 may be any suitable media used to receive store, and transport pharmaceuticals. A porous sugar tablet or even a liquid receiving vial may be employed as the medium 12." Page 4, paragraph [0059]. As argued above for Percin, because Childers is silent on an ingestible sheet Applicants assert that Examiner's rejection of claims 1 and 10 is improper. Likewise as argued above for Percin, Childers is silent on the limitation "onto the ingestible sheet."

Thus, Applicants assert Childers does not disclose "a fluid ejection cartridge for dispensing a bioactive fluid onto an ingestible sheet, comprising: a first reservoir containing the bioactive fluid; and a first fluid ejector fluidically coupled to said first reservoir, wherein said first fluid ejector is configured to eject, essentially in a drop wise manner, at least a drop of the bioactive fluid onto the ingestible sheet," as recited in independent claim 1, Childers does not anticipate or render obvious independent claim 1, since the above elements of the instant claimed invention are arranged in a manner distinct from that disclosed in 1.

Dependent claims 6-10 are dependent upon independent claim 1, and are therefore believed to be allowable, at least for this reason alone, as dependent upon a believed allowable claim. Accordingly, Applicants believe that the rejection of claims 1 and 6-10 has been overcome. Therefore, Applicants respectfully request that the Examiner withdraw the rejection of dependent claims 1 and 6-10 under 35 U.S.C. § 102(c) in respect to Childers.

IV. Rejections under 103:

Examiner, on page 7 of the Office Communication has rejected claims 6-7, 11-14, 16-18, 31-32, 34, 37-38, and 43 under 35 U.S.C. §103(a) as being unpatentable over Percin et al. (U.S. Patent No. 6,474,786, "Percin") in view of Lean et al. (U.S. Patent No. 6,079,814, "Lean"). This rejection is respectfully traversed with regard to claims 6-7, 11-14, 16-18, 31-32, 34, 37-38, and 43 since neither of the cited references Percin or Lean, taken either individually, or in combination therewith, teach, suggest, or mention the claimed invention.

To establish a *prima facie* case of obviousness, three basic criteria must be met. There must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, i.e. the prior art must suggest the desirability of the claimed invention. There must be a reasonable expectation of success. Finally to establish *prima facie* obviousness of a claimed invention, all claim limitations must be taught or suggested by the prior art. MPEP 2143.03 (*citing In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)). All words in a claim must be considered in judging the patentability of that claim against the prior art. *Id.* (*citing In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970)). These requirements are not met here.

In regards to claims 6-7, 11-14, 16-18, 31-32, 34, 37-38, and 43, Applicants agree with Examiner that Percin is silent concerning a drop-firing controller and a sheet advance as claimed in the instant case. However, Applicants also argue that Lean does not cure the deficiencies of either Percin or Childers. As argued above Percin does not disclose an ingestible sheet. In addition, Applicants have been unable to find any disclosure, teaching, or suggestion of an ingestible sheet in Lean. Applicants respectfully request that Examiner particularly point out where in Lean such a disclosure is made. Examiner clearly noted in the 35 U.S.C. §102(e) rejection that Percin does not disclose an ingestible sheet stating only that Percin is capable of dispensing onto an ingestible sheet. Thus, neither of the cited references Percin or Lean, taken either individually, or in combination therewith, teach, suggest, or mention all of the

elements/limitations found in claims 6-7, 11-14, 16-18, 31-32, 34, 37-38, and 43.

Therefore, at least for this reason alone the Examiner's suggested combination (which may or may not be proper) of Percin and Lean does not teach the present invention as recited in claims 6-7, 11-14, 16-18, 31-32, 34, 37-38, and 43. Accordingly, Applicants assert the rejection has been over come.

In addition, in regards to claims 6 and 7, Examiner has provided no reasoned argument in support of the rejection. Examiner has not even mentioned the limitations found in claims 6 and 7. Applicants have been unable to find in either Percin or Lean any disclosure, teaching, or suggestion of the limitations found in claims 6 and 7.

Applicants are left to guess as to the reasons for this rejection. Applicants respectfully request that Examiner particularly point out where in either Percin or Lean the elements/limitations disclosed in claims 6 and 7 are made. Accordingly, Applicants assert that the rejection of claims 6 and 7 has been over come for this reason, in addition to the reason argued above.

In regards to claims 11-14, Applicants agree with Examiner that Percin is silent on the elements/limitations disclosed in claims 11-14. Applicants respectfully disagree with Examiner that Lean cures these deficiencies. Applicants acknowledge that Lean discloses a pair of input feed rollers 21,22 forming a nip therebetween for registering and feeding a recording medium 24, such as a sheet of paper, on to the transport belt." Col. 3, lines 3-6. Lean also discloses that the "acoustic pressure at the ink surface 45 causes an ink droplet 38 to form which has a charge induced therein by the electrostatic tacking charge 46 placed on the dielectric surface 26 of the transport belt 14." Col. 3, lines 64-67. Further, Lean discloses "[p]ositive ions in the aqueous based ink congregate at the ink surface 45 in response to the high electrostatic negative potential of approximately -1,200 volts placed on the dielectric surface 26 by the DC scorotron 28 (shown in FIGS 1 and 3)." Col 4, lines 11-15. Applicants assert that Lean discloses a pair of input feed rollers and a transport belt that requires approximately -1,200 volts applied between the printhead and the transport belt as well as requiring an aqueous ink containing positive ions to properly function with a sheet of paper. Lean is silent on the use of an ingestible sheet and silent on the use of a bioactive fluid. Further, in

describing the use of an ionic ink and a transport belt that concurrently tacks the paper and provides the electrostatic field to induce charges on the ionic ink. Applicants assert does not disclose, teach, or even suggest the capability of such a system to work using a bioactive fluid and an ingestible sheet. Further, Examiner has made no reasoned arguments in regards to the rejection of claims 12-14. In particular, Applicants have been unable to find any disclosure, teaching, or suggestion of a perforation, or a dosage form. Accordingly, Applicants assert that the rejection of claims 11-14 has been overcome for this reason, in addition to the reason argued above.

In regards to independent claim 31 and dependent claim 37, Applicants note that claims 31 and 37 include similar elements/limitations as those found in claims 11 and 14. Therefore the arguments provided above in regards to claims 11 and 14 are applicable to claims 31 and 37 as well. Accordingly, Applicants assert that the rejection of claims 31 and 38 has been overcome for this reason, in addition to the reason argued above.

In regards to claims 16 and 17, Examiner has rejected claims 16-17 and stated "Percin et al discloses two dimensional array droplet ejectors (see Fig 1-2 Abstract)." Applicants note that neither claim 16 or claim 17 claims a two dimensional array of droplet ejectors but rather claims "wherein said sheet advancer and said drop-firing controller cooperate to dispense the bioactive fluid in a two dimensional array on said first portion of the ingestible sheet," for claim 16 and "on said second portion," for claim 17. Applicants have been unable to find in either Percin or Lean any disclosure, teaching, or suggestion of the limitations found in claims 16 and 17. Applicants respectfully request that Examiner particularly point out where in either Percin or Lean the elements/limitations disclosed in claims 16 and 17 are made. Accordingly, Applicants assert that the rejection of claims 16 and 17 has been overcome for this reason, in addition to the reason argued above.

In regards to claim 43, claim 43 discloses a bioactive fluid dispensing system, "wherein the volume of the fluid, of said at least one drop, is in the range of from about ten femto-liters to about ten micro-liters." Examiner has rejected claim 43 citing Percin

in view of Lean; however, Examiner has provided no reasoned argument as to why the claim has been rejected. Applicants have been unable to find any reference to femtoliters in either Percin or Lean, and respectfully request that Examiner particularly point out where in either Percin or Lean such a disclosure is made. Applicants further note that possibly Examiner is relying on Hayes (U.S. Patent No. 4,877,745) for such a disclosure. However, on page 11 of the Office Communication Examiner has stated that Hayes does make such a disclosure but it is prior art made of record and not relied upon. Further, Applicants would like to point out that it appears Examiner has made a mistake in converting pico-liters to femto-liters; claim 43 clearly claims 10 femto-liters which is clearly not disclosed by Hayes. Since none of the cited references claim the subject matter of claim 43 Applicants assert that the rejection of claim 43 has been overcome.

Examiner, on page 8 of the Office Communication has rejected claims 11-14, 16-32, 34, and 37-43 under 35 U.S.C. §103(a) as being unpatentable over Childers (U.S. Patent Publication No. 2002/0187248, "Childers") in view of Lean et al. (U.S. Patent No. 6,079,814, "Lean"). This rejection is respectfully traversed with regard to claims 11-14, 16-32, 34, and 37-43. Applicants note that Childers is a 35 U.S.C. §102(e) reference. Applicants assert that the Childers application and the instant application are assigned to the Hewlett-Packard Development Corporation a wholly owned subsidiary of the Hewlett-Packard Corporation. In addition, the inventors of the instant application were under an obligation of assignment to the Hewlett-Packard Corporation at the time the claimed invention was made. Applicants assert that based on MPEP § 706.02(l)(1) and § 706.02(l)(2) the Childers patent publication is thus disqualified as prior art under 35 U.S.C. §103(c). Accordingly, Applicants assert that the rejection of claims 11-14, 16-32, 34, and 37-43 has been overcome. Therefore, Applicants respectfully request that the Examiner withdraw the rejection of claims 11-14, 16-32, 34, and 37-43 under 35 U.S.C. § 103(a).

Examiner, on page 9 of the Office Communication has rejected claims 15 and 25 under 35 U.S.C. §103(a) as being unpatentable over Percin et al. (U.S. Patent No. 6,474,786, "Percin") or Childers (U.S. Patent Publication No. 2002/0187248, "Childers") in view of Lean et al. (U.S. Patent No. 6,079,814, "Lean") and further in

view of Hawkins (U.S. Patent No. 6,079,814, "Hawkins"). This rejection is respectfully traversed with regard to claims 15 and 25 since none of the cited references Percin or Childers, Lean, and Hawkins, taken either individually, or in combination therewith, teach, suggest, or mention the claimed invention.

Claim 15 discloses the bioactive fluid dispensing system further comprises "a heater, wherein at least a portion of a solvent dispensed with the bioactive fluid on the ingestible sheet is evaporated," and claim 25 discloses the bioactive fluid dispensing system further comprises "at least one heater to evaporate at least a portion of a solvent on the ingestible sheet after the bioactive fluid and said barrier material have been dispensed onto said first portion of the ingestible sheet." Applicants respectfully disagree with Examiner that Hawkins discloses a heater as part of the dispensing system to evaporate a portion of a solvent dispensed with the bioactive fluid. Applicants assert that Examiner has misinterpreted claims 15 and 25. Claims 15 and 25 do not claim a heater to cause ejection of the bioactive fluid. Clearly claim 15 states "the bioactive fluid on the ingestible sheet is evaporated," and claim 25 states "after the bioactive fluid and said barrier material have been dispensed onto said first portion of the ingestible sheet." Accordingly, Applicants assert that the rejection of claims 15 and 25 has been over come.

Examiner, on page 10 of the Office Communication has rejected claims 19 and 29-30 under 35 U.S.C. §103(a) as being unpatentable over Percin et al. (U.S. Patent No. 6,474,786, "Percin") or Childers (U.S. Patent Publication No. 2002/0187248, "Childers") in view of Lean et al. (U.S. Patent No. 6,079,814, "Lean") and further in view of Purcell et al. (U.S. Patent No. 6,347,857, "Purcell"). This rejection is respectfully traversed with regard to claims 19 and 29-30 since none of the cited references Percin or Childers, Lean, and Purcell, taken either individually, or in combination therewith, teach, suggest, or mention the claimed invention.

In regards to claim 30, claim 30 discloses a bioactive fluid dispensing system "wherein said image acquisition system further comprises a camera and a light source, wherein said camera and said light source are disposed in a carriage containing said at

least one fluid ejection cartridge." Applicants respectfully disagree with Examiner that Purcell in Fig. 4 col. 4 lines 1-28 discloses an image acquisition system having a light source and camera that are disposed in a carriage along with the fluid ejection cartridge as claimed in the instant specification. Applicants note that Purcell in Fig. 4 clearly shows detector 22 and light source 20 are below or beneath platen 30 with the cartridge 32 illustrated above the platen and separate from the detector and light source, i.e. not disposed in a carriage containing the cartridge. Because Purcell does not disclose, teach, or suggest the claim limitations found in claim 30 Applicants assert that the rejection of claim 30 has been over come.

Therefore, in view of the foregoing Amendment and Remarks, Applicant believes the present application to be in a condition suitable for allowance. Examiner is respectfully urged to withdraw the rejections, reconsider the present Application in light of the foregoing Amendment, and pass the amended Application to allowance.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application

Favorable action by the Examiner is solicited.

Hewlett-Packard Company
1000 NE Circle Blvd. m/s 422B
Corvallis, OR 97330
(541) 715-1694

Respectfully submitted,
Brian Craig Lee et al.

By: /Donald J. Coulman/
Donald J. Coulman
Reg. No. 50,406
Attorney for Applicant

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